During the 22d the cyclone moved northeastward, and on the following date it was central near N. 47°, W. 47°, as shown by the following reports: s. s. "France," A. D. Hadley, commanding, at 1 a. m. on the 23d, in N. 44° 43′, W. 49° 52′, barometer 28.88 (733.5), whole gale from ssw. to nw. and nne.; s. s. "Lydian Monarch," T. C. Huggett, commanding, in N. 46°, W. 49° 20′, barometer 29.0 (736.6), at 4 a. m. on the 23d, whole gale from w. to wnw.; s. s. "Noordland," H. E. Nickles, commanding, in N. 45° 28′, W. 49° 50′, at 5.40 a. m., barometer 28.86 (733.0), strong gale from sw. by s. to w. and nw.; s. s. "City of Chester," H. Condron, commanding, in N. 46° 40′, W. 47° 0′, at 10 a. m., barometer 28.88 (733.5), fresh gale from sw. to w., nw., and nne.; s. s. "Edam," J. H. Taat, commanding, in N. 45° 52′, W, 49° 20′, at 10 a. m., barometer 29.02 (737.1), whole gale from nw., shifting to ne.; s. s. "Jan Breydel," H. Myer, commanding, in N. 45° 15′, W. 47° 05′, at noon, barometer 28.97 (735.8), gale of force 10 (11 Beaufort scale) from sw. by w., shifting to wnw. On the 24th the region of least pressure was transferred to about N. 49°, W. 35°, the position of the storm-centre being clearly indicated by the well-defined cyclonic action of the winds. At 3 p. m. of the 23d the s. s. "Geiser," F. V. Schierbeck, commanding, in N. 47° 32′, W. 45° 23′, had barometer 29.0 (736.6), whole gale from ese. to sse. and sw., and thence to wnw; and at midnight of the 23d the s. s. "Germanic," H. Perry, commanding, in N. 48° 29′, W. 38° 57′, had barometer 28.74 (730.0), wind wsw., force 3, increasing, and veering to nw. until it reached force 9. The s. s. "Lord Clive," P. Urquhart, commanding, in N. 50°, W. 35° 30′, at 6. p. m. on the 23d had barometer 29.17 (740.9), wind e., force 2, and at midnight, in N. 49° 40′, W. 37° 0′, it read 28.9 (734.0). Throughout the 24th and 25th, as the storm-centre moved slowly eastward, the pressure remained below 29.0 (736.6), and heavy nw. and n. gales were reported to the west of the storm-centre, although the winds in the eastern quadrants did not exceed the force of a moderate gale. By the 26th this storm had reached the west coast of Ireland, and the pressure at the storm-centre had fallen to 28.4 (721.3), and strong gales were now prevailing in all quadrants. During the 26th the storm-centre passed over the British Isles.

9.—This was a continuation of the low area described as number viii under "Areas of low pressure." It passed off the coast of the United States on the 25th, and by the 26th the storm-centre was near N. 41°, W. 56°, with lowest reported pressure 29.28 (743.7), with fresh to strong e. to ne. gales over the region between N. 40° and 45° and from W. 55° to 60°. By the 27th the storm-centre had moved northeastward to about N. 50°, W. 37°, where the barometer ranged from 29.0 (736.6) to 29.2 (741.7); moderate w. gales prevailed over the region west of the fortieth meridian, with pressure ranging from 29.3 (744.2) to 29.7 (754.4) between W. 40° and the Banks of Newfoundland. Over the eastern part of the ocean, from about W. 40° eastward to about W. 15°, the pressure ranged from 28.99 (736.3) to 29.24 (742.7), and variable winds, moderate to strong in force, were reported. During the 28th and 29th this low area continued its northeasterly movement, and on the last-mentioned date it was apparently central to the northwest of the British Isles, with pressure near the storm-centre about 29.15 (740.4); during that date the pressure over the ocean between W. 35° and the British Isles, and north of the fiftieth parallel, did not exceed 29.5 (749.3), but on the last day of the month an increase set in and barometer rose to 30.0 (762.0) between W. 40° and 20°, and to 29.6 (751.8) between the last-mentioned meridian and the British Isles.

OCEAN ICE.

The only iceberg reported during the month of November, 1885, was observed in N. 48° 00′, W. 51° 10′ by Captain Poland, commanding the s. s. "Missouri."

In November, 1884, several icebergs were seen in N. 45° 56′, W. 52° 38′, but none were reported in that month of the years 1882 and 1883.

SIGNAL SERVICE AGENCIES.

Signal Service agencies have been established in the Maritime Exchange buildings at New York City and Philadelphia, and in the Custom-House, Boston, where the necessary blanks and other information will be furnished to ship-masters.

In pursuance of the arrangements made with the Meteorological Office of London, England, there were cabled to that office from New York during November, 1885, thirteen reports concerning storms encountered by vessels in the Atlantic west of the forty-fifth meridian; one message was sent from Boston.

TEMPERATURE OF THE AIR.

[*Expressed in degrees, Fahrenheit.*]

The distribution of mean temperature over the United States and Canada for November, 1885, is exhibited on chart ii by the dotted isothermal lines; and in the tables of miscellaneous data are given the monthly mean temperatures, with the departures from the normal, for the various stations of the Signal Service.

In the following table are given the mean temperatures for the several geographical districts, with the normals and departures, as deduced from Signal Service observations:

Average temperatures for November.

Districts.	Average for Nov. Signal-Service observations.		Comparison of Nov., 1885, with the average for several years.
	For several years.	For 1885.	
	°	°	°
New England	39.6	41.9	+ 2.3
Middle Atlantic States	45.3	46.5	+ 1.2
South Atlantic States	55.1	54.4	− 0.7
Florida Peninsula	68.5	64.9	− 3.6
Eastern Gulf States	55.6	54.6	− 1.0
Western Gulf States	56.9	58.2	+ 1.3
Rio Grande Valley	64.8	67.6	+ 2.8
Tennessee	48.2	48.9	+ 0.7
Ohio Valley	43.1	46.3	+ 3.2
Lower Lake region	38.8	41.0	+ 2.2
Upper Lake region	33.9	36.7	+ 2.8
Extreme Northwest	24.4	30.5	+ 6.1
Upper Mississippi Valley	38.2	41.0	+ 2.8
Missouri Valley	33.5	36.4	+ 2.9
Northern slope	31.2	40.3	+ 9.1
Middle slope	37.7	43.4	+ 5.7
Southern slope	48.6	53.4	+ 4.8
Southern plateau	48 2	51.8	+ 3.6
Middle plateau	37.0	43.0	+ 6.0
Northern plateau	37.1	43.6	+ 6.5
North Pacific coast region	44.5	46.5	+ 2.0
Middle Pacific coast region	52.8	54.3	+ 1.5
South Pacific coast region	59.1	60.8	+ 1.7

Over the central Ohio Valley, southwestern Virginia, the east Gulf states, Florida, and in the south Atlantic states, except along the South Carolina coast, the mean temperature for November, 1885, was slightly below the normal, the departures being most marked over the Florida Peninsula, where they were from 3° to 4°. In all other districts the mean temperature was above the average. Along the Pacific coast the departures ranged from 0°.8, at Red Bluff, California, to 2°.1, at Portland, Oregon; over the Rocky Mountain districts the departures generally varied from 4° to 10°, the greatest occurring in Montana; from Louisiana and eastern Texas northward to British America, and from the upper Mississippi Valley eastward to the New England coast, the departures below the normal generally varied from 2° to 4°.

The following are some of the most marked departures from the normal:

Above normal.		Below normal.	
	°		°
Fort Benton, Montana	13.8	Sanford, Florida	4.4
Fort Assinaboine, Montana	11.8	Cedar Keys, Florida	3.2
Fort Shaw, Montana	11.1	Key West, Florida	3.1
Helena, Montana	9.5	Pensacola, Florida	2.1
Fort Buford, Dakota	9.1	Mobile, Alabama	1.8
Deadwood, Dakota	8.9	Hatteras, North Corolina	1.5
Fort Maginnis, Montana	8.2	New Orleans, Louisiana	1.2
Fort Custer, Montana	7.7	Kitty Hawk, North Carolina	1.1
Dayton, Washington Territory	7.3	Fort Macon, North Carolina	1.0

DEVIATIONS FROM NORMAL TEMPERATURES.

In the table below are given, for certain stations, as reported by voluntary observers, the normal temperatures for November for a series of years, the mean temperature for November, 1885, and the departures from the normal:

Station.	County.	Normal temperature for November.	Number of years.	Mean temperature for Nov., 1885.	Departure.
		°		°	°
Arkansas.					
Lead Hill	Boone	47.8	4	49.8	+ 2.0
Connecticut.					
Middletown *	Middlesex	39.2	27	41.6	+ 2.4
New Haven *	New Haven	40.3	99	42.4	+ 2.1
California.					
Sacramento	Sacramento	52.8	19	54.4	+ 1.6
Illinois.					
Anna	Union	44.3	10	47.8	+ 3.5
Mattoon	Coles	39.7	5	43.0	+ 3.3
Peoria	Peoria	39.4	30	42.8	+ 3.4
Riley	McHenry	33.2	25	35.8	+ 2.6
Sycamore	De Kalb	36.7	4	36.0	— 0.7
Indiana.					
Lafayette	Tippecanoe	37.5	6	39.8	+ 2.3
Mauzy	Rush	37.9	6	37.6	— 0.3
Spiceland	Henry	38.6	32	42.0	+ 3.4
Vevay	Switzerland	43.7	21	46.5	+ 2.8
Iowa.					
Cresco	Howard	28.7	10	32.4	+ 3.7
Monticello	Jones	33.4	32	35.2	+ 1.8
Kansas.					
Independence	Montgomery	45.9	14	47.9	+ 4.0
Wellington	Sumner	40.8	7	45.2	+ 4.4
Yates Centre	Woodson	37.6	5	48.2	+10.6
Maine.					
Gardiner	Kennebec	35.7	49	38.6	+ 2.9
Maryland.					
Fallston	Harford	42.2	15	43.7	+ 1.5
Massachusetts.					
Amherst *	Hampshire	38.1	48	41.7	+ 3.6
Cambridge *	Middlesex	39.0	63	41.8	+ 2.8
Fitchburg *	Worcester	36.5	29	38.6	+ 2.1
Lowell *	Middlesex	38.5	10	41.6	+ 3.1
New Bedford *	Bristol	41.8	74	44.1	+ 2.3
Springfield *	Hampden	38.2	18	41.4	+ 3.2
Somerset	Bristol	39.5	15	44.8	+ 5.3
Williamstown *	Berkshire	36.9	30	39.0	+ 2.1
Worcester *	Worcester	39.2	45	39.2	0.0
New Brunswick.					
Saint John *	Saint John	34.9	25	36.6	+ 1.7
New Hampshire.					
Concord *	Merrimac	37.4	18	39.5	+ 2.1
Contoocook	Merrimac	33.5	.....	38.5	+ 5.0
Hanover *	Grafton	33.4	24	34.4	+ 1.0
New York.					
North Volney	Oswego	35.6	18	39.2	+ 3.6
Palermo	Oswego	35.5	32	36.7	+ 1.2
Plattsburg Barracks	Clinton	33.5	16	35.8	+ 2.3
Ohio.					
Wauseon	Fulton	35.3	15	38.5	+ 3.2
Pennsylvania.					
Dyberry	Wayne	34.5	18	37.8	+ 3.3
Wellsborough	Tioga	38.2	7	41.4	+ 3.2
Rhode Island.					
Providence	Providence	40.0	51	44.0	+ 4.0
South Carolina.					
Stateburg	Sumter	53.7	5	52.9	+ 0.8
Texas.					
New Ulm	Austin	59.2	14	61.2	+ 2.0
Vermont.					
Lunenburg *	Essex	31.1	37	35.6	+ 4.5
Newport *	Orleans	33.3	10	34.9	+ 1.6
Strafford *	Orange	33.6	11	34.7	+ 1.1
Woodstock	Windsor	31.2	18	34.5	+ 3.3
Virginia.					
Bird's Nest	Northampton	61.9	16	51.9	—10.0
Dale Enterprise	Rockingham	43.5	5	45.5	+ 2.0
Variety Mills	Nelson	44.3	8	43.5	— 0.8
Wytheville	Wythe	41.9	21	44.9	+ 3.0
West Virginia.					
Helvetia	Randolph	40.7	9	39.6	— 1.1

*From the "Bulletin of the New England Meteorological Society."

The following notes, on the temperature of the autumn months of 1885, are given by voluntary observers:

Arkansas.—Lead Hill, Boone county: the mean temperature for the autumn of 1885, 58°.6, is 2°.53 below the autumn average for the past four years.

Illinois.—Riley, McHenry county: the mean temperature for autumn of 1885, 46°.8, is 0°.2 below the mean for the past twenty-four autumns.

Iowa.—Monticello, Jones county: the maximum temperature for November for a period of thirty-two years was 70°.0, in 1854, 1859, and 1879, and the minimum for the same period was —11°.0, in 1863 and 1871.

Kansas.—Yates Centre, Woodson county: this has been the warmest November on record; the autumn temperature for 1885 is 54°.8, being the coldest since 1880.

Maryland.—Fallston, Harford county: highest mean temperature for November for a period of fifteen years, 46°.1, occurred in 1881; lowest, 37°.5, in 1873.

New Jersey.—South Orange, Essex county: November, 1885, has been warmer than for any corresponding month in fifteen years.

New York.—North Volney, Oswego county: the coldest November for a period of eighteen years occurred in 1873, when the mean temperature was 29°.5; the warmest November was in 1877, the mean being 38°.7.

Palermo, Oswego county: the highest November mean for the last thirty-two years was 41°.5, in 1859, and the lowest, 26°.8, in 1873; the mean temperature for autumn, 1885, was 44°.0, which is 1°.5 below the average for thirty-two years.

Ohio.—Wauseon, Fulton county: the highest November mean temperature for a period of fifteen years was in 1883, being 40°.3, and the lowest, 27°.9, in 1880; the extremes for the same period were, maximum, 74°.6, in November, 1876 and 1882, and minimum, —8°.5, in 1880.

Texas.—New Ulm, Austin county: the mean temperature for November, 1885, 61°.2, is 2°.0 above the average for the last fourteen years; the highest November mean was 65°.6, in 1879, and the lowest, 49°.6, in 1880. The maximum temperature in any November during this period was 94°.0, in 1882, and the minimum, 16°, in 1872.

Vermont.—Woodstock, Windsor county: highest November mean for a period of eighteen years, 36°.6, in 1877; lowest, 22°.5, in 1873; the maximum temperature was 73°.2, in 1876, and the minimum, —16°.5, in 1875.

Virginia.—Variety Mills, Nelson county: the mean temperature for autumn, 1885, is 53°.6, or 3°.0 below the average for eight years; during this period the highest mean temperature was 61°.5, in 1881, and the lowest, 53°.4, in 1880.

RANGES OF TEMPERATURE.

The monthly, and the greatest and least daily ranges of temperature, are given in the tables of miscellaneous meteorological data.

The monthly ranges were greatest over the middle and southern plateau districts and thence eastward to the Mississippi River, where they generally exceeded 50°; they were least on the north and middle Pacific coasts and in southern Florida, the ranges varying from 16°.4 to 29°.

The following are some of the greatest and least monthly ranges:

Greatest.		Least.	
	°		°
Phœnix, Arizona	65.0	Fort Canby, Washington Territory	16.4
Denver, Colorado	63.8	Tatoosh Island, Washington Territory	18.7
Fort Elliott, Texas	62.4	San Francisco, California	20.0
Lava, New Mexico	60.2	Astoria, Oregon	26.0
Fort Supply, Indian Territory	60.0	Pysht, Washington Territory	26.0
West Las Animas, Colorado	59.5	Key West, Florida	27.8
Fort Sill, Indian Territory	59.0	Olympia, Washington Territory	28.4
Lamar, Missouri	58.4	Port Angeles, Washington Territory	29.0

FROSTS.

Frosts occurred in the various districts on the following dates:

New England.—1st, 2d, 4th, 10th, 11th, 12th, 14th to 18th, 20th to 24th, 26th to 30th.

Middle Atlantic states.—1st to 30th.

South Atlantic states.—1st to 4th, 9th, 10th, 11th, 14th to 22d, 24th to 28th.

Florida Peninsula.—Fort Meade, 15th; Archer, 15th, 16th, 17th, 21st, 25th, 26th, 27th; Limona, 15th, 26th, 27th; Manatee, 25th, 26th; Sanford, 25th, 26th, 27th.

East Gulf states.—2d, 3d, 8th to 11th, 14th to 21st, 23d to 27th.

West Gulf states.—2d, 8th, 9th, 13th to 16th, 19th, 20th, 23d to 26th, 28th, 29th, 30th.

Table of comparative maximum and minimum temperatures for November.

State or Territory.	Station.	For 1885.		Since establishment of station.			
		Max.	Min.	Max.	Year.	Min.	Year.
		°	°	°		°	
Alabama	Mobile	76.4	33.3	82.0	1878, 1881	27.0	'71, '76, '80
Do	Montgomery	79.3	41.0	83.0	1879, 1882	21.0	1872
Arizona	Prescott	75.0	20.8	75.0	1878	- 1.0	1880
Do	Yuma	86.4	41.1	91.0	1879	31.0	1880
Arkansas	Fort Smith	79.9	25.1	86.0	1882	22.0	1882
Do	Little Rock	79.0	28.2	82.0	1879	10.0	1880
California	San Francisco	70.0	50.0	78.0	1871	41.0	1880
Do	San Diego	76.4	41.5	85.0	1873	38.0	1881
Colorado	Denver	75.0	11.2	76.0	1876, 1879	-18.0	1877
Do	Pike's Peak	33.2	-9.0	33.0	1878, 1879	-38.0	1880
Connecticut	New Haven	64.8	19.1	71.5	1882	2.0	1875
Do	New London	.....	.....	72.0	1882	4.0	1875
Dakota	Fort Buford	58.0	11.9	62.0	1879	-20.0	1881
Do	Yankton	67.5	18.4	76.0	1876	-15.0	1875
Delaware	Del. Breakwater	.....	.....	73.0	1881	23.0	1880
Do	Cape Henlopen	72.0	27.1	.....	.....	.....	.....
District of Columbia	Washington City	71.0	29.7	80.0	1879	12.5	1880
Florida	Jacksonville	81.2	36.4	84.0	1875, 1877	30.0	1873
Do	Key West	84.0	56.2	91.0	1876	52.0	1873
Georgia	Augusta	84.9	28.2	83.0	1882	24.0	1873
Do	Savannah	79.5	35.0	82.0	1875	22.0	1872
Idaho	Boisé City	.....	.....	59.0	1879	- 7.3	1884
Do	Lewiston	61.8	29.3	63.2	1883	13.0	1880
Illinois	Cairo	75.6	27.7	80.5	1882	7.0	1872
Do	Chicago	66.0	27.6	68.0	1875	-23.0	1872
Indiana	Indianapolis	69.8	23.7	75.0	1879	- 5.0	1880
Do	Greencastle	68.9	25.9	66.1	1884	9.7	1884
Indian Territory	Fort Sill	84.0	25.0	83.0	1879	- 4.0	1880
Iowa	Des Moines	66.3	21.4	71.0	1874, 1879	- 3.0	1875
Do	Keokuk	73.2	22.1	74.0	1874	- 3.0	1872
Kansas	Dodge City	75.5	21.2	83.0	1875	- 7.0	1880
Do	Leavenworth	75.5	26.0	77.0	1874	0.0	1872
Kentucky	Louisville	72.7	34.0	78.0	1879	4.5	1872
Louisiana	New Orleans	84.7	40.0	82.0	1882	31.5	1881
Do	Shreveport	80.8	31.6	86.0	1882	18.0	1880
Maine	Eastport	57.1	24.2	64.0	1882	-13.0	1875
Do	Portland	55.5	19.9	66.0	1882	- 6.0	1875
Maryland	Baltimore	73.5	32.5	78.0	1879	15.0	1880
Massachusetts	Boston	68.8	23.3	75.0	1876	- 2.0	1875
Michigan	Alpena	64.2	22.1	63.0	1874	- 4.0	1880
Do	Detroit	67.1	28.9	69.0	1879, 1882	0.0	1880
Minnesota	Saint Paul	52.7	17.2	72.0	1874	-24.5	1875
Do	Saint Vincent	40.2	0.7	58.7	1884	-22.0	1880, 1883
Mississippi	Vicksburg	84.8	31.2	84.5	1882	23.0	1877, 1880
Missouri	Saint Louis	76.1	31.8	82.0	1879	8.0	1880
Montana	Fort Benton	68.0	15.9	71.6	1884	-31.0	1875
Do	Helena	60.9	19.8	62.0	1884	-17.0	1880, 1881
Nebraska	Omaha	63.1	21.5	73.8	1882	- 6.0	1875
Do	North Platte	63.0	24.3	79.0	187	-10.0	1877
Nevada	Winnemucca	64.8	13.6	67.0	1879	- 9.0	1880
New Hampshire	Mount Washington	51.0	5.8	47.0	1880	-40.0	1875
New Jersey	Atlantic City	64.7	26.8	72.0	1882	10.0	1875
Do	Sandy Hook	72.0	29.9	73.0	1881	6.0	1880
New Mexico	Santa Fé	62.0	20.0	77.0	1878	-11.0	1880
New York	Buffalo	67.5	27.6	68.3	1881	2.5	1875
Do	New York City	68.6	25.0	74.0	1882	7.0	1875
North Carolina	Charlotte	75.7	27.7	80.0	1879	18.0	1880
Do	Wilmington	.....	.....	83.0	1877, 1879	20.0	1872
Ohio	Cleveland	68.3	22.1	72.5	1882	0.0	1880
Do	Cincinnati	70.8	27.1	75.0	1879	5.0	1880
Oregon	Portland	65.0	34.0	68.0	1873	22.5	1880
Do	Roseburg	.....	.....	69.7	1884	17.5	1880
Pennsylvania	Philadelphia	71.0	28.8	77.0	1876	8.0	1875
Do	Pittsburg	72.0	21.1	79.0	1876	4.0	1880
Rhode Island	Block Island	64.0	31.4	.....	.....	.....	.....
Do	Newport	.....	.....	71.2	1882	4.0	1875
South Carolina	Charleston	78.4	34.0	82.0	1879	28.0	1873, 1881
Tennessee	Knoxville	73.5	29.3	80.5	1881	11.5	1872
Do	Nashville	72.3	30.0	78.0	1879	13.0	1872
Texas	Galveston	80.3	46.4	82.0	1876	29.0	1880
Do	El Paso	78.3	23.3	82.0	1882	11.0	1880
Utah	Salt Lake City	68.9	17.0	68.0	1875	3.0	1880
Vermont	Burlington	.....	.....	65.8	1882	1.0	1873
Virginia	Lynchburg	71.6	28.3	80.2	1882	13.0	1880
Do	Norfolk	78.1	35.4	79.2	1883	20.0	1872
Washington Ter.	Dayton	67.2	27.2	66.0	1883	5.0	1881
Do	Olympia	59.2	30.8	63.0	1884	21.0	1882
West Virginia	Morgantown	.....	.....	76.0	1881	8.0	1880
Wisconsin	La Crosse	58.0	20.8	70.0	1874	-21.0	1875
Do	Milwaukee	.....	.....	70.0	1874	-14.0	1875
Wyoming	Cheyenne	67.1	15.9	69.0	1876	-20.0	1875

Rio Grande Valley.—Brownsville and Rio Grande City, Texas, 14th.

Tennessee.—2d, 3d, 4th, 9th, 10th, 11th, 13th to 17th, 20th, 21st, 24th, 26th, 27th, 29th.

Ohio Valley.—1st to 4th, 8th to 11th, 13th to 18th, 20th to 30th.

Lower lake region.—1st, 4th, 7th, 8th, 11th, 13th to 17th, 19th to 30th.

Upper lake region.—1st to 30th.

Extreme northwest.—1st to 6th, 8th to 28th, 30th.

Upper Mississippi Valley.—1st to 6th, 8th to 17th, 19th to 30th.

Missouri Valley.—1st to 30th.

Northern slope.—1st to 30th.

Middle slope.—1st to 30th.

Southern slope.—1st, 2d, 10th, 13th, 14th, 16th, 19th, 23d, 24th, 25th, 27th to 30th.

Southern plateau.—4th, 6th, 7th, 8th, 12th to 15th, 17th, 18th, 21st to 30th.

Middle plateau.—1st to 15th, 17th to 28th, 30th.

Northern plateau.—1st, 3d, 4th, 5th, 11th to 16th, 19th, 21st, 22d, 26th, 29th.

North Pacific coast region.—1st to 4th, 6th, 7th, 10th to 15th, 18th to 22d, 26th, 28th.

Middle Pacific coast region.—3d, 5th, 11th to 14th.

South Pacific coast region.—Los Angeles, 12th, 15th.

ICE.

Ice formed in the southern parts of the country as follows:

Alabama.—Greensborough, 14th, 24th, 25th, 26th.

Arkansas.—Lead Hill, 2d, 8th, 13th, 15th, 20th, 25th, 26th; Little Rock, 14th.

California.—Murieta, 2d.

Georgia.—Forsyth, 13th, 14th, 24th, 25th, 26th; Augusta, 3d; Savannah, 25th.

New Jersey.—Clayton, 1st, 14th, 16th, 17th, 20th, 21st, 22d, 28th, 29th; Little Egg Harbor, 28th.

North Carolina.—Weldon, 1st; Raleigh, 26th; Lenoir, 27th; New River Inlet, 4th.

South Carolina.—Stateburg, 3d, 26th; Spartanburg, 25th.

Tennessee.—Ashwood, 3d, 15th, 16th, 25th, 26th, 27th; Nashville, 15th, 26th.

Texas.—Cleburne, 29th; Comfort, 13th, 14th, 28th; Fort Concho, 13th.

Virginia.—Bird's Nest, 1st, 4th, 15th, 17th, 21st.

PRECIPITATION.

[*Expressed in inches and hundredths.*]

The distribution of rainfall over the United States and Canada for November, 1885, as determined from reports from more than seven hundred stations, is exhibited on chart iii.

In South Carolina, Georgia, and Florida the rainfall has been decidedly below the average, the departures ranging from about 1.50 to 2.50 at all stations, except at Atlanta, Georgia, and Sanford, Florida, where they are 0.69 and 0.61, respectively. There is also an area of deficiency which extends along the northern border of the country from northern New England to Dakota (except over the northern Michigan peninsula, where the rainfall was excessive) in a southwesterly direction to the west Gulf states and Rio Grande Valley. Over the greater part of this extensive area the deficiency exceeded 1.00, and over portions of Illinois, Iowa, Arkansas, Louisiana, and Texas it amounted to more than 2.00. From North Carolina and eastern Tennessee northeastward to southern New England, and in portions of the lower lake region, Ohio Valley, and east Gulf states, the rainfall has been in excess of the average, the departures being most marked over eastern Tennessee, the central Ohio Valley, northeastern Ohio, and at stations along the coasts of New Jersey and North Carolina. In the Rocky Mountain districts and in the Pacific coast regions the rainfall was also above the November average. On the Pacific coast the rainfall was remarkably heavy, numerous stations reporting from ten to nineteen inches. At Red Bluff, California, the amount was 17.05, the average for November during the eight preceding years being 2.20. At Sacramento and San Francisco, California, the departures were also very marked, amounting to 10.17 and 9.26, respectively, and the rainfall at these stations was the largest recorded for any corresponding month since their establishment. At Los Angeles, California, the rainfall was 5.55, or 4.50 above the November average for the last eight years, the aggregate rainfall for November during that period being 7.72, or only 2.17 in excess of that for November, 1885.

DEVIATIONS FROM AVERAGE PRECIPITATION.

The following table shows, for certain stations, as reported